

**REMARKS**

Claims 1-7, 20-23 and 25-26 are pending in this application. Reconsideration is respectfully requested.

The Office Action rejects claims 1-4 and 25 under 35 U.S.C. §103(a) over Natori (JP406204475A) in view of Wolf (ISBN 0-961672-3-7) (Wolf I) and Wolf (ISBN 0-961672-5-3) (Wolf II). Claim 5 is rejected under 35 U.S.C. §103(a) over Natori and Wolf I, and further in view of Uchizumi (JP406224376A). Claims 6-7 are rejected under 35 U.S.C. §103(a) over Natori and Wolf I and Wolf II, and further in view of Amerasekera (U.S. Patent 5,949,094). Claims 20-23 and 26 are rejected under 35 U.S.C. §103(a) over Natori in view of Wolf I and Wolf II. These rejections are respectfully traversed.

The Office Action asserts that a first isolation region is the region most to the left in Fig 2C of Natori, and that the second isolation region is region 4 centrally positioned in Fig. 2C (Office Action, page 3). However, according to the specification on page 22, lines 22-24, the first isolation region is defined to isolate each of the transistors. Therefore, each region 4 shown in Fig. 2C is a first isolation region, in that it isolates adjacent MOS transistors, and no second isolation region is disclosed. The second isolation region, as identified in the Office Action to be the centrally positioned region 4 in Fig. 2C is not "formed between the MOS transistor and the first isolation region," as recited in claim 1 and similarly recited in claim 20. Instead, the second isolation region 4 as identified in the Office Action, is formed between two MOS transistors, the gate electrodes labeled 3 in Fig. 2C, and therefore corresponds to a first isolation region according to the definition given in the specification on page 22. Therefore, Natori does not disclose or suggest the second isolation region recited in claims 1 and 20.

Furthermore, the Office Action asserts that a second diffusion region 9 by virtue of its N-type conductivity makes up a lateral bipolar transistor in the semiconductor substrate

and the first diffusion region of the MOS transistor. However, Applicants submit that no such lateral transistor is disclosed in Natori. The element cited by the Examiner as corresponding to the second diffusion region is element 9 in Fig. 2C of Natori, which is a source/drain of the MOSFET 20. The collector region (element 9 of MOSFET 20), is separated by a field oxide (element separating film 4) from the first diffusion region (element 9, source/drain of the MOSFET 10) which is speculated to serve as the emitter of the alleged NPN transistor. Thus, the "collector" of the NPN transistor is separated by a field oxide from the base and emitter of the alleged NPN transistor. Therefore, one of ordinary skill in the art would not recognize the structure shown in Fig. 2C of Natori as an NPN lateral bipolar transistor, as the collector region is isolated from the base and emitter region. The structure disclosed in Natori is nothing more than a PN junction diode, as repeatedly taught by Natori (for example, in paragraph [0028], pages 15-16). Nowhere in Natori is it disclosed, suggested or in any way recognized that the element 9 forms an element of an NPN lateral bipolar transistor.

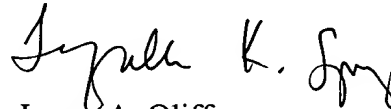
Wolf I discloses the application of a silicide side layer on top of a source/drain region. Wolf II discloses forming regions of opposite doping type in semiconductor substrates. Uchizumi discloses an N-type conductivity region in close proximity to a source region of an NMOS device. Amerasekera discloses a semiconductor device using triple wells to form vertical bipolar/silicon controlled rectifier structures in a CMOS process. Neither Wolf I, Wolf II, Uchizumi nor Amerasekera discloses a second isolation region formed between the MOS transistor and the first isolation region, or that the second diffusion region makes up a bipolar transistor together with a well in the semiconductor substrate and the first diffusion region. Therefore, neither Wolf I, Wolf II, Uchizumi nor Amerasekera remedies the deficiency of Natori with respect to independent claims 1 and 20.

Therefore, independent claims 1 and 20 are patentable over Natori, Wolf I, Wolf II, Uchizumi and Amerasekera, either alone or in combination. Claims 2-7 and 25 depend from claim 1 and claims 22-23 and 26 depend from claim 20. Therefore, claims 2-7, 25, 22-23 and 26 are patentable over the cited references for at the least the reasons set forth above with respect to claims 1 and claim 20, as well as for the additional features they recite. Applicants respectfully request that the rejection of claims 1-7, 20-23 and 25-26 be withdrawn.

In view of the foregoing remarks, Applicants respectfully submit that this application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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